

RAW SEQUENCE LISTING

**The Biotechnology Systems Branch of the Scientific and Technical
Information Center (STIC) no errors detected.**

Application Serial Number: 10/734,692

Source: _____

Date Processed by STIC: _____

ENTERED



IFWO

RAW SEQUENCE LISTING

DATE: 06/06/2005

PATENT APPLICATION: US/10/734,692

TIME: 08:02:11

Input Set : N:\Crf4\Refhold\10_folder\J734692.raw

Output Set: N:\CRF4\06062005\J734692.raw

```

1 <110> APPLICANT: Stashenko, Philip
2   Okamatsu, Yoshimura
3   Sasaki, Hajime
4   Battaglino, Richard
5   Spaete, Ulrike
6 <120> TITLE OF INVENTION: Expressed Genes that Define the Osteoclast Phenotype
7 <130> FILE REFERENCE: 25669-003
8 <140> CURRENT APPLICATION NUMBER: US/10/734,692
9 <141> CURRENT FILING DATE: 2003-12-11
10 <150> PRIOR APPLICATION NUMBER: 60/432,700
11 <151> PRIOR FILING DATE: 2002-12-11
12 <160> NUMBER OF SEQ ID NOS: 49
13 <170> SOFTWARE: PatentIn version 3.2
15 <210> SEQ ID NO: 1
16 <211> LENGTH: 22
17 <212> TYPE: DNA
18 <213> ORGANISM: Mus musculus
19 <400> SEQUENCE: 1
20   gtgttcacatca ttggagtggg gg                                22
22 <210> SEQ ID NO: 2
23 <211> LENGTH: 23
24 <212> TYPE: DNA
25 <213> ORGANISM: Mus musculus
26 <400> SEQUENCE: 2
27   ggttgaacag gtagatgctg gtc                                23
29 <210> SEQ ID NO: 3
30 <211> LENGTH: 1118
31 <212> TYPE: DNA
32 <213> ORGANISM: Mus musculus
33 <400> SEQUENCE: 3
34   gggccagctg ggtctgcccc ctaagaagat gaagcctttt catactgccc tctccttcct      60
35   cattcttaca actgctcttg gaatctgggc ccagatcaca catgcaacag agacaaaaga      120
36   agtccagagc agtctgaagg cacagcaagg gcttgaaatt gaaatgtttc acatgggctt      180
37   tcaagactct tcagattgct gcctgtccta taactcacgg attcagtgtt caagatttat      240
38   aggttatattt cccaccagtg gtgggtgtac caggccgggc atcatcttta tcagcaagag      300
39   ggggttccag gtctgtgcca accccagtga tcggagagtt cagagatgca ttgaaagatt      360
40   ggagaaaaaac tcacaaccac ggacctacaa acaataacat ttgctttaga gaagggtgtg      420
41   aactgccagc tactttcttt ggtcttcccc agtgaccacc taagtggctc taagtgttta      480
42   tttttatagg tatataaaca tttttttttt ctgtttccac tttaaagtgg catatctggc      540
43   tttgtcacag aggggaaaact tgtctgtgcc aaccccagtc atctgaaaac tcagatgcct      600
44   ggggaaggctt gaagctgacc tcaatgacta cacataatat ttgattgaga taaatgggca      660
45   aggtctggag agatggcttg gtgggttaaga gcacctgctg ctcttccaga ggacctgggt      720
46   tcaattccca cttagatggc agctcaaaact atctataatt ccaattccaa agaaaactga      780

```

RAW SEQUENCE LISTING

DATE: 06/06/2005

PATENT APPLICATION: US/10/734,692

TIME: 08:02:11

Input Set : N:\Crf4\Refhold\10_folder\J734692.raw

Output Set: N:\CRF4\06062005\J734692.raw

```

47      tgcctatttt tgcctcttta gttagtagta tttacagtat tctttataaa ttcaccttga      840
48      catgaccatc ttgagctaca gccatcctaa ctgcctcaga atcactcaag ttcttccact      900
49      cggtttccca gcggtatttta agtggataaa ctgtgagagt ggtctgtggg actttggaat      960
50      gtgtctgggt ctgatagtca cttatggcaa cccaggtaga ttcaactagg atgaaataaa      1020
51      ttctgcctta gccccagtagt atgtctgtgt ttgtaaggac ccagctgatt ttcccaccac      1080
52      ccctccatca gtcccgccact aataaagtgc atctatgc      1118

```

54 <210> SEQ ID NO: 4

55 <211> LENGTH: 122

56 <212> TYPE: PRT

57 <213> ORGANISM: Mus musculus

58 <400> SEQUENCE: 4

```

59      Met Lys Pro Phe His Thr Ala Leu Ser Phe Leu Ile Leu Thr Thr Ala
60      1              5              10              15
61      Leu Gly Ile Trp Ala Gln Ile Thr His Ala Thr Glu Thr Lys Glu Val
62      20              25              30
63      Gln Ser Ser Leu Lys Ala Gln Gln Gly Leu Glu Ile Glu Met Phe His
64      35              40              45
65      Met Gly Phe Gln Asp Ser Ser Asp Cys Cys Leu Ser Tyr Asn Ser Arg
66      50              55              60
67      Ile Gln Cys Ser Arg Phe Ile Gly Tyr Phe Pro Thr Ser Gly Gly Cys
68      65              70              75              80
69      Thr Arg Pro Gly Ile Ile Phe Ile Ser Lys Arg Gly Phe Gln Val Cys
70      85              90              95
71      Ala Asn Pro Ser Asp Arg Arg Val Gln Arg Cys Ile Glu Arg Leu Glu
72      100             105             110
73      Lys Asn Ser Gln Pro Arg Thr Tyr Lys Gln
74      115             120

```

76 <210> SEQ ID NO: 5

77 <211> LENGTH: 2156

78 <212> TYPE: DNA

79 <213> ORGANISM: Homo sapiens

80 <400> SEQUENCE: 5

```

81      ggcacgagcc cagaaacaaa gacttcacgg acaaagtccc ttggaaccag agagaagccg      60
82      ggatggaaac tccaaacacc acagaggact atgacacgac cacagagttt gactatgggg      120
83      atgcaactcc gtgccagaag gtgaacgaga gggccttttg ggccaactg ctgccccctc      180
84      tgtactcctt ggtatttgtc attggcctgg ttggaaacat cctgggtgggc ctgggtccttg      240
85      tgcaatacaa gaggctaaaa aacatgacca gcatctacct cctgaacctg gccatttctg      300
86      acctgctctt cctgttcacg cttcccttct ggatcgacta caagttgaag gatgactggg      360
87      tttttggtga tgccatgtgt aagatcctct ctgggtttta ttacacaggc ttgtacagcg      420
88      agatcttttt catcatcctg ctgacgattg acaggtaacct ggccatcgtc cagcgctgtg      480
89      ttgccttgcg ggcacggacc gtcacttttg gtgtcatcac cagcatcatc atttgggccc      540
90      tggccatctt ggcttccatg ccaggcttat acttttccaa gacccaatgg gaattcactc      600
91      accacacctg cagccttcac tttcctcacg aaagcctacg agagtggaag ctggttcagg      660
92      ccttgaaaact gaacctcttt gggctgggtat tgcctttggt ggtcatgac atctgctaca      720
93      cagggattat aaagattctg ctaagacgac caaatgagaa gaaatccaaa gctgtccggt      780
94      tgatttttgt catcatgac atcttttttc tcttttggtg cccctacaat ttgactatac      840
95      ttatttctgt tttccaagac ttcctgttca cccatgagtg tgagcagagc agacatttgg      900
96      acctggctgt gcaagtgcag gaggtgatcg cctacacgca ctgctgtgtc aaccagtgga      960
97      tctacgcctt cgttggtgag aggttccgga agtacctgcg gcagttgttc cacaggcggtg      1020

```

RAW SEQUENCE LISTING

DATE: 06/06/2005

PATENT APPLICATION: US/10/734,692

TIME: 08:02:11

Input Set : N:\Cr4\Refhold\10_folder\J734692.raw

Output Set: N:\CRF4\06062005\J734692.raw

```

98      tggctgtgca cctgggttaaa tggctcccct tcctctccgt ggacaggctg gagagggtca 1080
99      gctccacatc tccctccaca ggggagcatg aactctctgc tgggttctga ctcagaccat 1140
100     aggaggccaa cccaaaataa gcaggcgtga cctgccaggc acactgagcc agcagcctgg 1200
101     ctctcccagc caggttctga ctcttggcac agcatggagt cacagccact tgggatagag 1260
102     agggaaatgta atgggtggcct ggggcttctg aggccttctgg ggcttcagtc ttttccatga 1320
103     acttctcccc tggtagaaaag aagatgaatg agcaaaaacca aatattccag agactgggac 1380
104     taagtgtacc agagaagggc ttggactcaa gcaagatttc agatttgtga ccattagcat 1440
105     ttgtcaacaa agtcacccac ttcccactat tgcttgacaa aaccaattaa acccagtagt 1500
106     ggtgactgtg ggctccattc aaagtgaagt cctaagccat gggagacact gatgtatgag 1560
107     gaatttctgt tcttccatca cctccccccc cccgccacc cccactgcc aagaacttgg 1620
108     aaatagtgat ttccacagt actccactct gactcccaga gccaatcagt agccagcatc 1680
109     tgcttcccct tccctcccac cgcaggattt gggctcttgg aatcctgggg aacatagaac 1740
110     tcatgacgga agagttaga cctaacgaga aatagaaatg ggggaactac tgctggcagt 1800
111     ggaactaaga aagcccttag gaagaatttt tatatccact aaaatcaaac aattcagggg 1860
112     gtgggctaag cacgggccat atgaataaca tgggtgtgctt cttaaaatag ccataaaggg 1920
113     gagggactca tcatttccat ttacccttct tttctgacta tttttcagaa tctctcttct 1980
114     tttcaagttg ggtgatattg tggtagattc taatggcttt attgcagcga ttaataacag 2040
115     gcaaaaggaa gcagggttgg tttcccttct tttgttctt catctaagcc ttctggtttt 2100
116     atgggtcaga gttccgactg ccattcttga cttgtcagca aaaaaaaaaa aaaaaa 2156

```

118 <210> SEQ ID NO: 6

119 <211> LENGTH: 355

120 <212> TYPE: PRT

121 <213> ORGANISM: Homo sapiens

122 <400> SEQUENCE: 6

```

123     Met Glu Thr Pro Asn Thr Thr Glu Asp Tyr Asp Thr Thr Thr Glu Phe
124     1          5          10          15
125     Asp Tyr Gly Asp Ala Thr Pro Cys Gln Lys Val Asn Glu Arg Ala Phe
126     20          25          30
127     Gly Ala Gln Leu Leu Pro Pro Leu Tyr Ser Leu Val Phe Val Ile Gly
128     35          40          45
129     Leu Val Gly Asn Ile Leu Val Val Leu Val Leu Val Gln Tyr Lys Arg
130     50          55          60
131     Leu Lys Asn Met Thr Ser Ile Tyr Leu Leu Asn Leu Ala Ile Ser Asp
132     65          70          75          80
133     Leu Leu Phe Leu Phe Thr Leu Pro Phe Trp Ile Asp Tyr Lys Leu Lys
134     85          90          95
135     Asp Asp Trp Val Phe Gly Asp Ala Met Cys Lys Ile Leu Ser Gly Phe
136     100         105         110
137     Tyr Tyr Thr Gly Leu Tyr Ser Glu Ile Phe Phe Ile Ile Leu Leu Thr
138     115         120         125
139     Ile Asp Arg Tyr Leu Ala Ile Val His Ala Val Phe Ala Leu Arg Ala
140     130         135         140
141     Arg Thr Val Thr Phe Gly Val Ile Thr Ser Ile Ile Ile Trp Ala Leu
142     145         150         155         160
143     Ala Ile Leu Ala Ser Met Pro Gly Leu Tyr Phe Ser Lys Thr Gln Trp
144     165         170         175
145     Glu Phe Thr His His Thr Cys Ser Leu His Phe Pro His Glu Ser Leu
146     180         185         190
147     Arg Glu Trp Lys Leu Phe Gln Ala Leu Lys Leu Asn Leu Phe Gly Leu

```

RAW SEQUENCE LISTING

DATE: 06/06/2005

PATENT APPLICATION: US/10/734,692

TIME: 08:02:11

Input Set : N:\Cr4\Refhold\10_folder\J734692.raw

Output Set: N:\CRF4\06062005\J734692.raw

148		195		200		205	
149	Val	Leu	Pro	Leu	Leu	Val	Met
150		210		215		220	
151	Ile	Leu	Leu	Arg	Arg	Pro	Asn
152		225		230		235	
153	Ile	Phe	Val	Ile	Met	Ile	Ile
154				245		250	
155	Leu	Thr	Ile	Leu	Ile	Ser	Val
156				260		265	
157	Cys	Glu	Gln	Ser	Arg	His	Leu
158				275		280	
159	Ile	Ala	Tyr	Thr	His	Cys	Cys
160		290				295	
161	Gly	Glu	Arg	Phe	Arg	Lys	Tyr
162		305				310	
163	Ala	Val	His	Leu	Val	Lys	Trp
164				325		330	
165	Glu	Arg	Val	Ser	Ser	Thr	Ser
166				340		345	
167	Ala	Gly	Phe				
168				355			
170	<210> SEQ ID NO: 7						
171	<211> LENGTH: 2156						
172	<212> TYPE: DNA						
173	<213> ORGANISM: Homo sapiens						
174	<400> SEQUENCE: 7						
175	ggcacgagcc	cagaaacaaa	gacttcacgg	acaaagtccc	ttggaaccag	agagaagccg	60
176	ggatggaaac	tccaaacacc	acagaggact	atgacacgac	cacagagttt	gactatgggg	120
177	atgcaactcc	gtgccagaag	gtgaacgaga	gggcctttgg	ggcccaactg	ctgccccctc	180
178	tgtactcctt	ggtatttgct	attggcctgg	ttggaaacat	cctgggtggtc	ctggctccttg	240
179	tgcaatacaa	gaggctaaaa	aacatgacca	gcatctacct	cctgaacctg	gccatttctg	300
180	acctgctctt	cctgttcacg	cttcccttct	ggatcgacta	caagttgaag	gatgactggg	360
181	tttttggtga	tgccatgtgt	aagatcctct	ctgggtttta	ttacacaggc	ttgtacagcg	420
182	agatcttttt	catcatcctg	ctgacgattg	acaggctacct	ggccatcgtc	cacgccgtgt	480
183	ttgccttgcg	ggcacggacc	gtcacttttg	gtgtcatcac	cagcatcatc	atttgggccc	540
184	tggccatctt	ggcttccatg	ccaggccttat	acttttccaa	gacccaatgg	gaattcactc	600
185	accacacctg	cagccttcac	tttcctcacg	aaagcctacg	agagtgggaag	ctgtttcagg	660
186	ctctgaaaact	gaacctcttt	gggctggtat	tgcccttggt	ggatcatgatc	atctgctaca	720
187	cagggattat	aaagattctg	ctaagacgac	caaagtggaa	gaaatccaaa	gctgtccggt	780
188	tgatttttgt	catcatgata	atcttttttc	tcttttggac	cccctacaat	ttgactatac	840
189	ttattttctgt	tttccaagac	ttcctgttca	cccatgagtg	tgagcagagc	agacatttgg	900
190	acctggctgt	gcaagtgaag	gaggtgatcg	cctacacgca	ctgctgtgtc	aacctcagtg	960
191	tctacgcctt	cgttggtgag	aggttccgga	agtacctgag	gcagttgttc	cacaggcgtg	1020
192	tggctgtgca	cctggttaaa	tggctcccct	tctctccgtg	ggacaggctg	gagagggtca	1080
193	gctccacatc	tccctccaca	ggggagcatg	aactctctgc	tgggttctga	ctcagacctc	1140
194	aggaggccaa	cccaaaaata	gcaggcgtga	cctgccaggc	acactgagcc	agcagcctgg	1200
195	ctctcccagc	caggttctga	ctcttggcac	agcatggagt	cacagccact	tgggatagag	1260
196	agggaatgta	atggtggcct	ggggcttctg	aggcttctgg	ggcttcagtc	ttttccatga	1320
197	acttctcccc	tggtagaaaag	aagatgaatg	agcaaaaacca	aatattccag	agactgggac	1380

RAW SEQUENCE LISTING

DATE: 06/06/2005

PATENT APPLICATION: US/10/734,692

TIME: 08:02:11

Input Set : N:\Crf4\Refhold\10_folder\J734692.raw

Output Set: N:\CRF4\06062005\J734692.raw

```

198 taagtgtacc agagaagggc ttggactcaa gcaagatttc agatttgtga ccattagcat 1440
199 ttgtcaacaa agtcacccac ttcccactat tgcttgacac aaccaattaa acccagtagt 1500
200 ggtgactgtg ggctccattc aaagtgagct cctaagccat gggagacact gatgtatgag 1560
201 gaattttctgt tcttccatca cctccccccc cccgccaccc tcccactgcc aagaacttgg 1620
202 aaatagtgat ttccacagtg actccactct gagtcccaga gccaatcagt agccagcatc 1680
203 tgcttcccct tctctccac cgcaggattt gggctcttgg aatcctgggg aacatagaac 1740
204 tcatgacgga agagttgaga cctaacgaga aatagaaatg ggggaactac tgctggcagt 1800
205 ggaactaaga aagcccttag gaagaatttt tatatccact aaaatcaaac aattcagggg 1860
206 gtgggctaag cacgggccat atgaataaca tgggtgtgctt cttaaaatag ccataaaggg 1920
207 gagggactca tcatttccat ttacccttct tttctgacta tttttcagaa tctctcttct 1980
208 tttcaagttg ggtgatagt tggtagattc taatggcttt attgcagcga ttaataacag 2040
209 gcaaaaggaa gcagggttgg ttcccttctt tttgttctt catctaagcc ttctgggttt 2100
210 atgggtcaga gttccgactg ccatcttggg cttgtcagca aaaaaaaaaa aaaaaa 2156
212 <210> SEQ ID NO: 8
213 <211> LENGTH: 355
214 <212> TYPE: PRT
215 <213> ORGANISM: Homo sapiens
216 <400> SEQUENCE: 8
217 Met Glu Thr Pro Asn Thr Thr Glu Asp Tyr Asp Thr Thr Thr Glu Phe
218 1 5 10 15
219 Asp Tyr Gly Asp Ala Thr Pro Cys Gln Lys Val Asn Glu Arg Ala Phe
220 20 25 30
221 Gly Ala Gln Leu Leu Pro Pro Leu Tyr Ser Leu Val Phe Val Ile Gly
222 35 40 45
223 Leu Val Gly Asn Ile Leu Val Val Leu Val Leu Val Gln Tyr Lys Arg
224 50 55 60
225 Leu Lys Asn Met Thr Ser Ile Tyr Leu Leu Asn Leu Ala Ile Ser Asp
226 65 70 75 80
227 Leu Leu Phe Leu Phe Thr Leu Pro Phe Trp Ile Asp Tyr Lys Leu Lys
228 85 90 95
229 Asp Asp Trp Val Phe Gly Asp Ala Met Cys Lys Ile Leu Ser Gly Phe
230 100 105 110
231 Tyr Tyr Thr Gly Leu Tyr Ser Glu Ile Phe Phe Ile Ile Leu Leu Thr
232 115 120 125
233 Ile Asp Arg Tyr Leu Ala Ile Val His Ala Val Phe Ala Leu Arg Ala
234 130 135 140
235 Arg Thr Val Thr Phe Gly Val Ile Thr Ser Ile Ile Ile Trp Ala Leu
236 145 150 155 160
237 Ala Ile Leu Ala Ser Met Pro Gly Leu Tyr Phe Ser Lys Thr Gln Trp
238 165 170 175
239 Glu Phe Thr His His Thr Cys Ser Leu His Phe Pro His Glu Ser Leu
240 180 185 190
241 Arg Glu Trp Lys Leu Phe Gln Ala Leu Lys Leu Asn Leu Phe Gly Leu
242 195 200 205
243 Val Leu Pro Leu Leu Val Met Ile Ile Cys Tyr Thr Gly Ile Ile Lys
244 210 215 220
245 Ile Leu Leu Arg Arg Pro Asn Glu Lys Lys Ser Lys Ala Val Arg Leu
246 225 230 235 240
247 Ile Phe Val Ile Met Ile Ile Phe Phe Leu Phe Trp Thr Pro Tyr Asn

```

RAW SEQUENCE LISTING ERROR SUMMARY DATE: 06/06/2005
PATENT APPLICATION: US/10/734,692 TIME: 08:02:12

Input Set : N:\Crf4\Refhold\10_folder\J734692.raw
Output Set: N:\CRF4\06062005\J734692.raw

Please Note:

Use of n and/or Xaa have been detected in the Sequence Listing. Please review the Sequence Listing to ensure that a corresponding explanation is presented in the <220> to <223> fields of each sequence which presents at least one n or Xaa.

Seq#:48; N Pos. 5,6,7

Invalid <213> Response:

Use of "Artificial" only as "<213> Organism" response is incomplete, per 1.823(b) of New Sequence Rules. Valid response is Artificial Sequence.

Seq#:28,29

VERIFICATION SUMMARY

DATE: 06/06/2005

PATENT APPLICATION: US/10/734,692

TIME: 08:02:12

Input Set : N:\Crf4\Refhold\10_folder\J734692.raw

Output Set: N:\CRF4\06062005\J734692.raw

L:327 M:300 W: (50) Intentionally skipped Sequence, : Sequence Id (15) SEQUENCE:
L:1013 M:341 W: (46) "n" or "Xaa" used, for SEQ ID#:48 after pos.:0